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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/289,550	04/09/1999	RICHARD W. FRIESEN	3854	8747

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FENWICK & WEST LLP  
TWO PALO ALTO SQUARE  
PALO ALTO, CA 94306

EXAMINER

KYLE, CHARLES R

ART UNIT	PAPER NUMBER
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2164

DATE MAILED: 01/02/2002

12

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/289,550

Applicant(s)

FRIESEN ET AL.

Examiner

Charles Kyle

Art Unit

2164

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2001.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-58 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 41-44** are rejected under 35 U.S.C. 103(a) as being unpatentable over Belden et al in view of Garcia.

As to Claim 41, Belden et al discloses the invention substantially as claimed, including first and second terminals for receiving bids and offers on items; see Column 4, line 54 to Col. 6, line 36 and Figures 1a to 1b. Belden et al disclose matching corresponding bids and offers at Col. 17, line 38 to Col. 18, line 6 and Figure 4. Finally, Belden et al disclose communication of bids and offers from terminals for all traders. See Col. 4, line 54 to Col. 5, line 19. See also the Summary. Belden et al do not specifically disclose a feature whereby information on a plurality of bids and offers is presented so as to allow for analysis of market behavior as Applicants argue in their remarks. Garcia disclose such a feature at Figures 3 and 4, Col. 6, line 45 to Col. 7, line 16 and Col. 8, lines 15-39. It would have been obvious to one of ordinary skill in the

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art at the time of the invention to have modified the invention of Belden et al with the information on plural bids and offers for the reason specifically set forth at the Abstract and Summary of the Invention of Garcia as follows:

*...Stock information is received that includes bid offers, ask offers, the size of the bid offers and the size of the ask offers and the identity of the market makers making each offer. In addition, trade information is received that includes the volume of each trade, the time of each trade, and the price of each trade. The stock information and trade information are displayed on a display screen. The display screen includes a display of bid/ask trade bars for a stock or each of selected number of stocks in which percentage of sales at bid prices and percentage of sales at ask prices are depicted. By considering the display screen, traders are better able to determine trading patterns of the market makers in those selected stocks and increase their probability of buying low and selling high. In a preferred embodiment, the bid/ask trade bars include the following information: the percentage of trades at the ask prices, the percentage of trades at the bid prices, the percentage of trades between the ask and the bid, the bid-to-ask ratio, the volume of trades over a given interval. In a preferred embodiment, the bid/ask bar information can be filtered to represent the trading activity of all of the agents or a specified group of market makers or ECNs. Also, in a preferred embodiment, the stock information and trade information are received at a web site, and the traders who view the display screen are online traders having access to the Internet. (Abstract)*

*The present invention provides a method for providing stock information to traders. Stock information is received that includes bid offers, ask offers, the size of the bid offers and the size of the ask offers and the identity of the market makers making each offer. In addition, trade information is received that includes the volume of each trade, the time of each trade, and the price of each trade. The stock information and trade information are displayed on a display screen.*

*The display screen includes a display of bid/ask trade bars for a stock or each of selected number of stocks in which percentage of sales at bid prices and percentage of sales at ask prices are depicted. By considering the display screen, traders are better able to determine trading patterns of the market makers in those selected stocks and increase their probability of buying low and selling high.*

*In a preferred embodiment, the bid/ask trade bars include the following information: the percentage of trades at the ask prices, the percentage of trades at the bid prices, the percentage of trades between the ask and the bid, the bid-to-ask. In a preferred embodiment, the bid/ask bar information can be filtered to represent the trading activity of all of the agents or a specified group of market makers or ECNs. Also, in a preferred embodiment, the stock information and trade information are received at a web site, and the traders who view the display screen are online traders having access to the Internet. (Summary of the Invention)*

With respect 42, Belden et al display outstanding bids and offers at Figs. 2b and 4 and at Col. 4, line 54 to Col. 5, line 20.

Concerning Claim 43, see the discussion of Claim 41 above and note that Belden et al further disclose a transaction server coupled to a plurality of client servers at Fig. 1a and Col. 7, line 13 to Col. 14, line 3.

As to Claim 44, Belden et al disclose a database for storing trading information at Col. 9, lines 6-27.

**Claims 1, 3-10, 12-17, 35, 49-51 and 57-58** are rejected under 35 U.S.C. 103(a) as being unpatentable over Belden et al and Garcia in view of Anupam et al.

Concerning Claim 1, Belden et al and Garcia teach the invention substantially as claimed, including the display in a user interface of transactional information for orders to buy and sell items at specific values in quantity. See the discussion of Claim 41 above. See also Belden et al at Figures 2b and 4 and Cols. 1-6. Belden et al disclose the display of order icons for items corresponding to bids and offers in quantities at values; see Col. 14, line 38 to Col. 16, line 30 and Figs. 2b, 2c and 4. Belden et al do not specifically disclose the display of icons along a value axis corresponding to order value, although Garcia shows such features at Figures 1 and 3 and Col. 5, lines 20-53. Anupam et al disclose the display of a value axis and the display of an icon corresponding to a value on that axis at Fig. 5, and Col. 4, line 49 to Col. 5, line 18; see also Col. 6, lines 10-22. At Column 5, lines 28-42, Anupam et al teach the modification of axis assignment to meet user needs. It would have been obvious to one of ordinary skill in the art at the time of the invention to have included the value related icons taught by Anupam et al in the trading interface of Belden et al and Garcia because this would

have provided a well recognized icon, the bar graph, as a means to convey value information for individual bids and offers. This modification is suggested by Anupam et al regarding the application of their invention at Col. 4, line 60 to Col. 5, line 42. They specifically state that the features of the invention are applicable to trading items, which is common subject matter with Belden et al.

Concerning Claim 3, Belden et al do not specifically disclose positioning an icon so as to imply its value. Anupam et al disclose an order icon located so as to imply value at Col. 5, lines 9-42. It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the positioning of icons taught by Anupam et al in the display of Belden et al because this would have provided the user with readily inferred value information in a familiar data presentation format. Again, the similar subject matter of the two references suggests motivation to combine their elements.

Regarding Claim 4, Belden et al specifically teach order icons containing quantity and value information at Figure 2b, particularly element 205-1. The communication of the information contained in the icons of Belden et al through use of the icon types disclosed by Anupam et al would have been obvious for the reasons described in the discussion of Claim 1 above.

Concerning Claims 5 and 6, Belden et al disclose the use of bid slots and rearrangement of bids at Column 4, lines 23-53.

Regarding Claim 7, Belden et al teach the sequencing of bid orders first by value and then by time of arrival so as to indicate the order that bids would be matched against offers. See Col. 4, lines 30-34.

Concerning Claim 8, see the discussion of Claim 7 above. Further, it would have been obvious to have represented the ordered bids of Belden et al using the icons disclosed by Anupam et al because this would have presented the readily available bid information in a format familiar to traders. Anupam et al state that the features of the invention are applicable to trading items, which is common subject matter with Belden et al, a motivation to combine the elements of the inventions.

Regarding Claim 9, Belden et al teach the sequencing of offer orders first by value and then by time of arrival so as to indicate the order that offers would be matched against bids. See Col. 4, lines 34-39.

Concerning Claims 10 and 51, Belden et al disclose the use of visual characteristics to distinguish a trader's icon from those of others at Col. 14, line 36 to Col. 15, line 21. See also Fig. 2b.

Regarding Claims 12 and 16, see the discussion of Claim 1 above. These Claims also recite the processes of receiving orders and generating icons for new bids or offers, which is taught by Belden et al at Fig. 1c and Fig. 2b and Col. 18, line 48 to Col. 20. See also Col. 10, line 31 to Col. Col. 14, line 23.

Concerning Claim 26, see the discussion of Claim 14.

As to Claim 13, it recites language describing the matching of a bid with an offer and the completion of a trade. It would have been obvious to one of ordinary skill in the art at the time of the invention to have removed an offer icon when a trade for that offer was completed because this would have avoided confusion and contention among multiple traders each thinking that he or she had completed the trade for an unremoved

yet already sold offer icon. Further, if a trade were completed for a particular offer the remaining available quantity of items from that offer would be zero, thus implying an icon size also of zero.

Concerning Claims 14 and 15, they describe the matching of bids and offers which are unequal and the display of a "remainder" icon representing items not traded in a partial trade of unequal bids and offers. It would have been obvious to one of ordinary skill in the art at the time of the invention to make provision for such partial trades by representing the trade "remainder" in a proportionally sized icon for a bid or offer because this would have expedited the trade of the total order by trading it in parts.

Regarding Claim 17, Belden et al teach the sequencing of offers to be matched against bids. See Col. 4, lines 34-39.

As to Claim 35, see the discussion of Claim 1 above. Belden et al further disclose the execution of their invention in an electronic system having a computer-readable medium, cited at Col. 9, lines 13-27.

Regarding Claim 49, see the discussion of Claim 1 above. Note that Anupam et al specifically disclose the relations of location to value and size to quantity at Col. 4, line 51 to Col. 5, line 18.

As to Claims 50 and 58, see the discussion of Claims 18-21.

Concerning Claim 57, see the discussion of Claim 1 above.



**Claims 22 and 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Belden et al in view of Garcia and further in view of Dictionary of Finance and Investment Terms (Dictionary).

As to Claim 22, Belden et al and Garcia disclose the invention substantially as claimed. See the discussion of Claim 1 above. They do not disclose the concept of a value quantifying metric. Dictionary discloses such a feature as the definition of limit order and limit price, which serves as a trigger for sells or buys of traded commodities. It would have been obvious to one of ordinary skill in the art at the time of the invention to have displayed the these order concepts in the trading combination of Belden et al and Garcia because this would have included a well known trading feature which would have provided automated function to trading and so improved trading speed. The motivation to include the limit order and limit price with the combined trading system is seen in its common subject matter of commodities trading.

As to Claim 23, it would have been obvious to have provided updated value quantifying metric information because this would have allowed the trader to have executed trades with information most useful to understand actual current market conditions.

**Claims 24-31, 45-48 and 55-56** are rejected under 35 U.S.C. 103(a) as being unpatentable over Belden et al in view of Garcia and further in view of Sacerdoti et al.

As to Claims 24, 28, 45, 47 and 55 Belden et al and Garcia teach the invention substantially as claimed including an electronic trading system having orders and

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receipt of information for those orders, which information is displayed. See the discussion of Claim 1 for detailed reference. Belden et al do not specifically disclose the value and quantity axes and display of icons with respect to them although Garcia teaches such axes at Col. 20, lines 20-53. Sacerdoti et al also teach the use of such axes for trading systems. See Col. 1 to Col. 4 and Figures 4, 5 and 7 and Col. 7, line 21 to Col. 8, line 65. It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the display of icons with respect to axes because this would have provided more flexibility for traders who may have different preferences for data presentation; such flexibility would have aided traders in a fast-paced trading environment. A motivation to combine the teachings of the references is given by Sacerdoti et al at Col. 1, lines 20-64 as common subject matter of trading.

Also of note are the facts that Sacerdoti et al teach the features of icon size corresponding to quantity, bar graphs etc. (Col. 7, lines 36-45) and user adjustment of icon size to reflect quantity (Summary of the Invention). These features are recited in other claims rejected over other art.

Regarding Claims 25 and 27, they recite the processes of receiving and generating icons for new bids or offers, which is taught by Belden et al at Fig. 1c and Fig. 2b and Col. 18, line 48 to Col. 20. See also Col. 10, line 31 to Col. 14, line 23.

Concerning Claim 26, see the discussion of Claim 14.

Concerning Claims 29 and 30, they recite the making of bids and offers and trade completion in a graphical trading system, features which are taught by Belden et al at

Figure 2b and Col. 14, line 38 to Col. 16, line 30. See also Fig. 4 and Col. 17, line 38 to Col. 18, line 6 and Col. 6, lines 16-24.

As to Claim 31, Sacerdoti et al teach the adjustment of token size in the Summary of the Invention.

As to Claim 46, see the discussion of Claims 32-34, 39-40 and 53-54.

Concerning Claims 48 and 56, see the discussion of Claims 18-21.

**Claims 2 and 36-38** are rejected under 35 U.S.C. 103(a) as being unpatentable over Belden et al in view of Garcia and further in view of Schott.

Concerning Claim 2, Belden et al and Garcia disclose the invention substantially as claimed. See the discussion of Claim 1 above. Belden et al and Garcia do not specifically disclose size adjustment of an icon to reflect a quantity. Schott discloses this feature at Column 1, line 10 to Col. 3, line 53 and at Column 8, line 48 to Col. 20, line 67. It would have been obvious to one of ordinary skill in the art at the time of the invention to have included the variation of icon size to imply value of Schott in the graphical trading combination of Belden et al and Garcia because this would have avoided the requirement of user data entry by keyboard and would have speeded user access to visually presented data. See particularly Column 1, line 44 to Col. 2, line 3. The combination of elements of these references is suggested by the common subject matter of the references, graphical display and manipulation of financial information.

Regarding Claim 36, see the discussion of Claim 35 above and Schott further teaches the display of a historical economic data at Figs. 23A-25C and Col. 6, lines 22-

62. See also the Backgrounds and Summary of the Invention which disclose the use of the invention for representation of spreadsheet data, which is of its nature historical. Further the presentation of comparative historical data in chart or graph form to facilitate financial decisions was well known to those in the practice of finance.

As to Claim 37, Schott specifically discloses the relationship of icon size and quantity at Fig. 19A and Col. 5, lines 18-22.

Regarding Claim 38, Belden et al teaches the provision of quantity and value information for bids and offers at Figures 2b and 4 and Cols. 1-6. The reference does not specifically disclose the use of two axes as a presentation background for this information. Schott discloses the use of two axes as a presentation background for such information at Col. 18, line 39 to Col. 20, line 67 and related figures. It would have been obvious to one of ordinary skill in the art at the time of the invention to have included the two axis coordinate system as a format for icons representing quantity of orders because this would have provided a familiar and easily understood representation of information. The combination of elements of these references is suggested by the common subject matter of the references, graphical display and manipulation of financial information.

**Claims 32-34, 39-40 and 53-54** are rejected under 35 U.S.C. 103(a) as being unpatentable over Belden et al in view of Garcia and further in view of Bernstein.

Concerning Claims 32, 39 and 53, Belden et al and Garcia disclose the invention substantially as claimed. While Belden et al specifically disclose a Pit Panel

representation for trading, it does not specifically disclose an icon with concentric rings. See Figure 2b and Col. 14, line 26 to Col. 16, line 19. Bernstein discloses such a representation at Fig. 5-1 and related text. It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the representation of a trading pit disclosed by Bernstein as a modification of the Pit panel of Belden et al because this would have been familiar to traders whose experience of trading had been in the real world implementation of Pits as displayed by Bernstein. The combination is suggested by the common matter of the references of pit trading.

As to Claim 33, Bernstein teaches the activity levels from orders at page 63.

Regarding Claim 34, 40 and 54, Bernstein teaches the relationship between location in the trading pit and activity at Page 62, line 5 and Page 63, line 30; see particularly Page 63, lines 21-30. As well, Belden et al discloses the provision of trader location information and activity at Fig. 5A.

**Claims 11, 18-21 and 52** are rejected under 35 U.S.C. 103(a) as being unpatentable over Belden et al in view of Garcia and further in view of Bay Jr.

Regarding Claims 18 and 21, Belden et al discloses the invention substantially as claimed. See the discussion of Claim 1 above. Belden et al and Garcia do not specifically disclose three axes and display of historical data with respect to the third axis. Bay Jr. discloses these features at Figs. 1, 1a and 2 and at Cols. 1-4. It would have been obvious to one of ordinary skill in the art at the time of the invention to have included the display of historical information of Bay Jr. in the trading system because

this would have facilitated price trend prediction as stated in the Abstract of Bay Jr. The motivation for the combination is given by the common subject matter of the two references and described in the Background of the Invention.

As to Claims 11 and 52, see the discussion of Claims 1 and 49 above and Bay Jr. further discloses the display of high and low price information at Col. 4, lines 19-35.

As to Claim 19, Bay Jr. discloses the display of current data and historical data at Col. 3, line 24 to Col. 4, line 55. It would have been obvious to have updated historical data as current data changed because this would have allowed for comparison of like data, e.g. data from like periods or categories.

Regarding Claim 20, Bay Jr. teaches the representation of average values at Col. 2, line 65 to Col. 4, line 35 and Fig 1a.

### ***Response to Arguments***

Applicant's arguments filed September 12, 2001 have been fully considered but they are not persuasive.

At page 21 continuing to page 22 of the Amendment filed September 12, 2001, Applicants argue against objection to the drawings and claims as set forth in the prior office action. These objections are withdrawn based on Applicant's amendments to the drawings and claims.

At page 22, Applicants argue the newly claimed elements of "communicating all outstanding offers and all outstanding bids to remote terminals" and transmittal of "bids

lower than a best bid" and "offers higher than a best offer". These newly claimed elements are addressed in the rejections of Claims 41 and 43 set forth above.

At the fourth full paragraph of page 22, Applicants argue that Belden does not disclose a "tool for analyzing or studying market behavior". This is not a claimed element and in any case is remedied by the Garcia reference. See at least the Summary of the Invention. Applicants also here argue that Belden does not disclose or suggest exposing "the book" which feature is claimed not in Claims 41 or 43, but rather 28. Again, Garcia discloses this feature at Figures 3 and 4 and Col. 7, lines 6-43. Applicants also here argue that Belden et al do not disclose value and quantity axes. If this argument relates to Claims 41 and 43 as appears, the argument is moot as such axes are not claimed elements of these claims. Belden et al was not relied upon for the axes feature. Anupam et al were originally relied on for this feature in the treatment of other Claims and the motivation to combine Belden et al and Anupam provided by the Examiner has not been refuted or even addressed.

At the first full paragraph of page 23 Applicants argue that Belden et al merely replicates a conventional market and there is no motivation to combine Belden et al with Anupam. The application of Garcia has addressed the newly claimed feature of a "non-conventional" market. Further, Applicants argue that even were such a combination made, which it now is, that the combined system would be markedly different from Applicants' claimed invention. Applicants do not, however, disclose how such the claimed invention would patentably distinguish over the combination.

At the second full paragraph of page 23, Applicants address the newly claimed feature of a plurality of offers and/or offers and how this adds patentable distinction over Belden et al. Identification and application of the Gracia reference addresses this new feature in the new grounds of rejection set forth above.

Concerning the arguments set forth at the last full paragraph of page 23 to page 24, see the discussions set forth in the two paragraphs immediately above.

Thus, Applicants arguments are deemed non-persuasive and the Claims are again rejected.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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McIntyre

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Halbert et al

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within



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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Kyle whose telephone number is (703) 305-4458. The examiner can normally be reached on Monday - Friday, 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent Millin can be reached on (703) 308-1065. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

ckv

crk  
December 27, 2001

  
VINCENT MILLIN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100